

PARALLEL SOFTWARE PROCESSING SYSTEM

ABSTRACT OF THE DISCLOSURE

A computer memory structure for parallel computing has a first level of hierarchy comprising a plane. The plane contains a thread which represents an independent flow of control managed by a program structure, a heap portion for data structure, a stack portion for function arguments, and local variables and global data accessible by any part of the program structure. The memory structure further has a second level of hierarchy comprising a space. The space contains two or more of the planes, with the planes in the space containing the program structure. The space further contains common data accessible by the program structure between each of the planes. A third level of hierarchy in the memory structure comprises two or more of the spaces. The spaces contain the same or different program structures, and common data accessible by the program structure between each of the spaces. The program structure comprises a library of programs and further includes a function table for each space, with the function table being adapted to exchange services with the library in each space.